

REMARKS/ARGUMENTS

1. Status of the Claims

Claims 5-28 are pending in the application.

Claims 5, 13, 16 and 19 have been amended to clarify the structure of the claimed surgical clip. New claims 25-28 have been added to further clarify the function of the claimed surgical clip. Support for these amendments can be found, for example, in ¶ 15 and Drawings 2, 3 and 8 of the original specification.

No new matter has been added.

2. Rejection – 35 USC § 103

Claims 5-24 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,863,675 to Wilson, Jr. (Wilson) in view of U.S. Patent Appl. Pub. No. 2004/0106937 to Berube et al. (Berube). Applicants respectfully traverse this rejection, as the amended claims patentably distinguish the combination of Wilson and Berube. Moreover, one of ordinary skill in the art would have had no reason to combine Wilson and Berube.

Wilson is believed to relate to a product commercially known as “Hem’o’lok” or “Weck clip.” The clip of Wilson is not *laterally* curved but rather *longitudinally* curved; i.e., its legs are not curved in a plane of their inner surfaces, but rather the inner surfaces are themselves curved rather than generally planar as in the present invention. Thus, Wilson exhibits limitations in surgical performance when compared with the laterally curved clip of the present invention. For example, compare Drawing 3 of the present application with Figure 5 of Wilson. As a result of its lack of lateral curvature, Wilson’s clip is not able, for instance, to partially clip a large vessel which is bleeding due to an injury and obviously should not be completely occluded, and this lack of performance could never be overcome by simply turning it to the right or the left. This limitation of Wilson’s clip can be explained because it is not laterally curved, but rather is curved only in a concave-convex manner. If one attempted to partially clip a large vessel using a Wilson clip, this definitely would cause a vessel injury due to the tearing effect of the locking mechanism on the vessel wall, because with a clip lacking lateral curvature, the surgeon could not keep the locking tip out of the clipped area.

Another great advantage distinguishing the surgical clip of the present invention from Wilson, also due to its lateral curvature, is that the surgeon will have a complete view of the clip's tip during its handling and use, thus avoiding unexpected or undesirable events, such as clipping structures other than the desired one.

Berube discloses a clamp accessory for an ablation instrument. See, e.g., ¶ 38. The clamp of Berube has jaw members having lateral curvature, but lacking a pair of inner faces that are parallel and in contact with each other in a closed position. Rather, jaw member 102 has a groove 108 which is not parallel or in contact with inner surface 114 of jaw member 104. See, e.g., Fig. 1.

Neither Wilson nor Berube discloses a surgical clip having a pair of legs, each leg being laterally curved in the plane of a generally planar inner surface of the leg, as required by all independent claims.

Regarding independent claims 1 and 13, Wilson also lacks disclosure of a surgical clip having legs that are generally mirror images of each other, and this deficiency is not cured by Berube. Contrary to the Examiner's statement, the legs of Wilson are not generally mirror images of each other; rather, a concave inner face of leg 22 faces a convex inner face of leg 24. See Figure 1. In fact, Wilson expressly indicates that surgical clip 12 is asymmetric as illustrated in Figures 1-6, col. 4, lns. 30-31, and even teaches away from symmetric clips by indicating that asymmetric clips have several advantages over symmetric clips, see col. 2, lns. 40-50. Thus, one skilled in the art would have been discouraged from combining the teachings of Wilson with the teachings of Berube, which discloses a clip that is not asymmetric in the sense meant by Wilson, as its jaw members do not mate in a convex-concave relationship.

Regarding independent claims 1, 13, and 16, neither Wilson nor Berube discloses a surgical clip with legs having generally planar inner surfaces that are adapted to be parallel and in contact with each other when the clip is in a closed position. To the contrary, the inner surfaces of both legs of Wilson are generally convex, and the inner surface of jaw member 102 of Berube is generally concave. The clamp of Berube is not designed for clamping vessels for partial or full occlusion, but rather for clamping tissues to be ablated with an ablation device. Hence the generally concave (as opposed to planar) inner surface of jaw 102, defining the groove 108, which is adapted to retain the ablation device. See, e.g., Figure 1, ¶ 38.

The lack of a planar inner surface on jaw 102 to contact a planar surface on jaw 104 renders ablation instrument housing clamps like that of Berube inappropriate for stanching/clipping a blood vessel, and thus one skilled in the art would have had no reason to look to clamps for housing ablation instruments to modify Wilson's clip for ligating blood vessels or the like.

Finally, as to independent claim 19, the Examiner has not cited any portion of Wilson or Berube disclosing the limitation of the metal clip being lockable in the closed position by deformation of the clip from the open position by applying sufficient force to press the inner surfaces of the legs together.

CONCLUSION

In view of the foregoing, none of the cited references, alone or in combination, teaches or suggests a laterally-curved surgical clip as claimed in any of independent claims 5, 13, 16 and 19. Accordingly, applicant requests that the rejections be withdrawn and that the application proceed to allowance.

Respectfully submitted,



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